

REMARKS

Status of the Claims

Claims 1-13, 16, and 18-22 are pending in the present application. Claims 14, 15, 17 and 23 were previously cancelled. Claims 1-11 and 18-21 are withdrawn as directed to a non-elected invention. Claims 11 and 22 have been amended in accordance with the Examiner's suggestion. Thus, no new matter has been added.

Reconsideration of this application, as amended, is respectfully requested.

Information Disclosure Citation

Applicants thank the Examiner for considering the reference supplied with the Information Disclosure Statement filed March 10, 2011, and for providing Applicants with an initialed copy of the PTO-SB08 form filed therewith.

Claim Objections

The Examiner has objected to claims 11 and 22 because of several informalities. In order to overcome this objection, Applicants have amended claims 11 and 22 in accordance with the Examiner's helpful suggestion in order to correct the deficiencies pointed out by the Examiner. Reconsideration and withdrawal of this objection are respectfully requested.

Issue under 35 U.S.C. §103(a)

Claims 11-13, 16 and 22 remains rejected under 35 U.S.C. § 103(a) as being unpatentable over Miyazawa, and further in view of Suda.

This rejection is respectfully traversed.

Miyazawa describes a transgenic (Tg) mouse with targeted expression of CNP in the growth plate chondrocytes under the control of the mouse pro- $\alpha 1$ (II) collagen (Col2a1) promoter. Thus, this mouse over-expresses CNP locally in the chondrocytes and is not an animal model for reproducing the state that CNP has been systemically administered. In this respect, the Examiner acknowledges, "[M]iyazawa et al do not teach systemic administration of CNP-22 of SEQ ID NO: 1" (Office Action, page 5).

However, the Examiner alleges that the combination of the teachings of Miyazawa and Suda render the systemic administration obvious. Applicants respectfully disagree.

The Examiner points out that the person of ordinary skill in the art would not have understood CNP to be expressed exclusively in the brain, but rather would have understood CNP to be expressed in a wide variety of tissues (page 3604 of Miyazawa; page 2337 of Suda). However, CNP in peripheral tissues or semen appears to arise by local production because CNP is not detected within the circulation (see "DISCUSSION" at page 3702, right column, lines 10-13 of Chrisman *et al.*, copy attached, ("Seminal Plasma Factors That Cause Large Elevations in Cellular Cyclic GMP Are C-type Natriuretic Peptides," *J. Biol. Chem.*, 1993, vol. 268, no. 5, pp. 3698-3703), which is cited at page 2337 of Suda). Furthermore, Suda describes, "[G]C-A and GC-B mRNAs are expressed abundantly in 8-day-old normal mouse tibias, tails, and vertebrae" (p 2340, right column, the first paragraph, and Fig. 4). Suda also describes, "[T]hese findings suggest strongly that activation of chondrogenesis by natriuretic peptides is mediated primarily via GC-B" (pg 2341, right column, the first paragraph). These teachings, however, make it unclear whether the overgrowth in BNP transgenic mice is caused by activation of either or both of GC-A and GC-B through increase in blood BNP concentration. In this respect, Suda does not clearly suggest the overgrowth in BNP transgenic mice is caused by activation of GC-B by BNP in the bone, because Suda mentions, "[T]he discussion above, however, does not rule out the possible existence of an as-yet-unidentified receptor specific for BNP in the bone" (p 2342, left column, the first paragraph).

With respect to the circulation of BNP, Suda only postulates or assumes it. Thus, whether the circulation of BNP indeed occurs is not clear. Importantly, as seen from the teaching of Chrisman, CNP had not been detected within the circulation at the priority date of the present application (Chrisman, page 3702, right column, lines 10-13).

Thus, the combination of Miyazawa and Suda do not teach or suggest that the systemic administration of CNP allows the increase in body height of an animal to accelerate. Consequently, one of skill in the art would not find a systemic administration of CNP to be obvious.

Furthermore, one of skill in the art would have no reasonable expectation of success that the administration of CNP systemically would have any effect at all, let alone increasing a body height of an individual.

Accordingly, reconsideration and withdrawal of this rejection are respectfully requested.

Conclusion

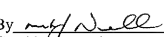
All of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding rejections and that they be withdrawn. It is believed that a full and complete response has been made to the outstanding Office Action, and as such, the present application is in condition for allowance.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Linda T. Parker, PhD, Registration No. 46,046, at the telephone number of the undersigned below to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Director is hereby authorized in this, concurrent, and future replies to charge any fees required during the pendency of the above-identified application or credit any overpayment to Deposit Account No. 02-2448.

Dated: October 14, 2011

Respectfully submitted,

By  36,623
Gerald M. Murphy, Jr.
Registration No.: 28977
BIRCH, STEWART, KOLASCH & BIRCH, LLP
8110 Gatehouse Road, Suite 100 East
P.O. Box 747
Falls Church, VA 22040-0747
703-205-8000

Attachment(s) Chrisman *et al.*